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1 1/2

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/713,098

DATE: 11/29/2000
 TIME: 09:05:34

Input Set : A:\1051Q.app
 Output Set: N:\CRF3\11292000\I713098.raw

P.S.

ENTERED

3 <110> APPLICANT: Zlot, Constance H.
 4 Adema, Gosse J.
 5 Figdor, Carl
 6 Phillips, Joseph H.
 8 <120> TITLE OF INVENTION: Mammalian Genes; Related Reagents and Methods
 10 <130> FILE REFERENCE: DX1051Q
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/713,098
 C--> 13 <141> CURRENT FILING DATE: 2000-11-14
 15 <160> NUMBER OF SEQ ID NOS: 9
 17 <170> SOFTWARE: PatentIn Ver. 2.0
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 1960
 21 <212> TYPE: DNA
 22 <213> ORGANISM: primate
 24 <220> FEATURE:
 25 <221> NAME/KEY: CDS
 26 <222> LOCATION: (58)..(1467)
 28 <400> SEQUENCE: 1
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 31 atg ggt atc tgg acc tca ggc act gat atc ttc cta agt ctt tgg gag 105
 32 Met Gly Ile Trp Thr Ser Gly Thr Asp Ile Phe Leu Ser Leu Trp Glu
 33 1 5 10 15
 35 att tac gtg tct cca aga agc ccc gga tgg atg gac ttt atc cag cat 153
 36 Ile Tyr Val Ser Pro Arg Ser Pro Gly Trp Met Asp Phe Ile Gln His
 37 20 25 30
 39 ttg gga gtt tgc tgt ttg gtt gct ctt att tca gtg ggc ctc ctg tct 201
 40 Leu Gly Val Cys Cys Leu Val Ala Leu Ile Ser Val Gly Leu Leu Ser
 41 35 40 45
 43 gtg gcc gcc tgc tgg ttt ctg cca tca atc ata gcg gcc gct gcc tcc 249
 44 Val Ala Ala Cys Trp Phe Leu Pro Ser Ile Ile Ala Ala Ala Ala Ser
 45 50 55 60
 47 tgg att atc acg tgt gtt ctg ctg tgt tgc tcc aag cat gca cga tgt 297
 48 Trp Ile Ile Thr Cys Val Leu Leu Cys Cys Ser Lys His Ala Arg Cys
 49 65 70 75 80
 51 ttt att ctt ctt gtc ttt ctc tct tgt ggc ctg cgt gaa ggc agg aat 345
 52 Phe Ile Leu Leu Val Phe Leu Ser Cys Gly Leu Arg Glu Gly Arg Asn
 53 85 90 95
 55 gct ttg att gca gct ggc aca ggg atc gtc atc ttg gga cac gta gaa 393
 56 Ala Leu Ile Ala Ala Gly Thr Gly Ile Val Ile Leu Gly His Val Glu
 57 100 105 110
 59 aat att ttt cac aac ttt aaa ggt ctc cta gat ggt atg act tgc aac 441
 60 Asn Ile Phe His Asn Phe Lys Gly Leu Leu Asp Gly Met Thr Cys Asn
 61 115 120 125
 63 cta agg gca aag agc ttt tcc ata cat ttt cca ctt ttg aaa aaa tat 489
 64 Leu Arg Ala Lys Ser Phe Ser Ile His Phe Pro Leu Leu Lys Lys Tyr
 65 130 135 140
 67 att gag gca att cag tgg att tat ggc ctt gcc act cca cta agt gta 537

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68 Ile Glu Ala Ile Gln Trp Ile Tyr Gly Leu Ala Thr Pro Leu Ser Val
69 145 150 155 160
71 ttt gat gac ctt gtt tct tgg aac cag acc ctg gca gtc tct ctt ttc 585
72 Phe Asp Asp Leu Val Ser Trp Asn Gln Thr Leu Ala Val Ser Leu Phe
73 165 170 175
75 agt ccc agc cat gtc ctg gag gca cag cta aat gac agc aaa ggg gaa 633
76 Ser Pro Ser His Val Leu Glu Ala Gln Leu Asn Asp Ser Lys Gly Glu
77 180 185 190
79 gtc ctg agc gtc ttg tac cag atg gca aca acc aca gag gtg ttg tcc 681
80 Val Leu Ser Val Leu Tyr Gln Met Ala Thr Thr Thr Glu Val Leu Ser
81 195 200 205
83 tcc ctg ggt cag aag cta ctt gcc ttt gca ggg ctt tgg ctg gtc ctg 729
84 Ser Leu Gly Gln Lys Leu Leu Ala Phe Ala Gly Leu Ser Leu Val Leu
85 210 215 220
87 ctt ggc act ggc ctg ttc atg aag cga ttt ttg ggc cct tgt ggt tgg 777
88 Leu Gly Thr Gly Leu Phe Met Lys Arg Phe Leu Gly Pro Cys Gly Trp
89 225 230 235 240
91 aag tat gaa aac atc tac atc acc aga caa ttt gtt cag ttt gat gaa 825
92 Lys Tyr Glu Asn Ile Tyr Ile Thr Arg Gln Phe Val Gln Phe Asp Glu
93 245 250 255
95 agg gag aga cat caa cag agg ccc tgt gtg ctg ccg ctg aat aag gag 873
96 Arg Glu Arg His Gln Gln Arg Pro Cys Val Leu Pro Leu Asn Lys Glu
97 260 265 270
99 gaa agg agg aag tat gtc atc atc ccg act ttc tgg ccg act cct aaa 921
100 Glu Arg Arg Lys Tyr Val Ile Ile Pro Thr Phe Trp Pro Thr Pro Lys
101 275 280 285
103 gaa agg aaa aac ctg ggg ctg ttt ttc ctg ccc ata ctt atc cat ctg 969
104 Glu Arg Lys Asn Leu Gly Leu Phe Phe Leu Pro Ile Leu Ile His Leu
105 290 295 300
107 tgc atc tgg gtg ctg ttt gca gct gta gat tat ctg ctg tat cgg ctg 1017
108 Cys Ile Trp Val Leu Phe Ala Ala Val Asp Tyr Leu Leu Tyr Arg Leu
109 305 310 315 320
111 att ttc tca gtg agc aag cag ttt caa agc ttg cca ggg ttt gag gtt 1065
112 Ile Phe Ser Val Ser Lys Gln Phe Gln Ser Leu Pro Gly Phe Glu Val
113 325 330 335
115 cac ttg aaa ctg cac gga gag aaa caa gga act caa gat att atc cat 1113
116 His Leu Lys Leu His Gly Glu Lys Gln Gly Thr Gln Asp Ile Ile His
117 340 345 350
119 gat tct tcc ttt aat ata tct gtg ttt gaa ccc aac tgt atc cca aaa 1161
120 Asp Ser Ser Phe Asn Ile Ser Val Phe Glu Pro Asn Cys Ile Pro Lys
121 355 360 365
123 cca aaa ttc ctt cta tct gag acc tgg gtt cct ctg agt gtt att ctt 1209
124 Pro Lys Phe Leu Leu Ser Glu Thr Trp Val Pro Leu Ser Val Ile Leu
125 370 375 380
127 ttg ata tta glg atg ctg gga ctg ttg tcc tct atc ctt atg caa ctt 1257
128 Leu Ile Leu Val Met Leu Gly Leu Leu Ser Ser Ile Leu Met Gln Leu
129 385 390 395 400
131 aaa atc ctg gtg tca gca tct ttc tac ccc agc gtg gag agg aag cgc 1305
132 Lys Ile Leu Val Ser Ala Ser Phe Tyr Pro Ser Val Glu Arg Lys Arg

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133          405          410          415
135 atc caa tat ctg cat gca aag ctg ctt aaa aaa aga tca aag cag ccg 1353
136 Ile Gln Tyr Leu His Ala Lys Leu Lys Lys Arg Ser Lys Gln Pro
137          420          425          430
139 ctg gga gaa gtc aaa aga cgg ctg agt ctc tat ctt aca aag att cat 1401
140 Leu Gly Glu Val Lys Arg Arg Leu Ser Leu Tyr Leu Thr Lys Ile His
141          435          440          445
143 ttc tgg ctt cca gtc ctg aaa atg att agg aag aag caa atg gac atg 1449
144 Phe Trp Leu Pro Val Leu Lys Met Ile Arg Lys Lys Gln Met Asp Met
145          450          455          460
147 gca agt gca gac aag tca tgagagaccc cgactactcc tcagccacat 1497
148 Ala Ser Ala Asp Lys Ser
149 465          470
151 cgcaccaaca attctcttca ggtctaggat ggcagtcact attcatgccg gataatagag 1557
153 aactatgtga cgcagtcctc tcaggagtct gagtltacaq agccaacttg cagcacctgg 1617
155 ttatgcctcc ttcaatctca aagccaaaga gctgccaggt aatgggttat gtggtctatg 1677
157 ttccaaacaa accacatgat cttgctctg tcacaatgta acaagactct agctgggtcc 1737
159 cctgggtgatg agtttcagca tagaataatg ttcaaggaaa agaaaaacgaa aacagtltaa 1797
161 atctctacca cagcctcaca agcaaatgct aaggggaaca tacatgtaaa aagccagcaa 1857
163 actatcttca aactcttcg tccttaattgt cttccatggc tattgcccc acaatggtct 1917
165 cttttctccc tctccttta ttaaagaact ctttctgaaa ccc 1960
168 <210> SEQ ID NO: 2
169 <211> LENGTH: 470
170 <212> TYPE: PRT
171 <213> ORGANISM: primate
173 <400> SEQUENCE: 2
174 Met Gly Ile Trp Thr Ser Gly Thr Asp Ile Phe Leu Ser Leu Trp Glu
175 1 5 10 15
177 Ile Tyr Val Ser Pro Arg Ser Pro Gly Trp Met Asp Phe Ile Gln His
178 20 25 30
180 Leu Gly Val Cys Cys Leu Val Ala Leu Ile Ser Val Gly Leu Leu Ser
181 35 40 45
183 Val Ala Ala Cys Trp Phe Leu Pro Ser Ile Ile Ala Ala Ala Ser
184 50 55 60
186 Trp Ile Ile Thr Cys Val Leu Leu Cys Cys Ser Lys His Ala Arg Cys
187 65 70 75 80
189 Phe Ile Leu Leu Val Phe Leu Ser Cys Gly Leu Arg Glu Gly Arg Asn
190 85 90 95
192 Ala Leu Ile Ala Ala Gly Thr Gly Ile Val Ile Leu Gly His Val Glu
193 100 105 110
195 Asn Ile Phe His Asn Phe Lys Gly Leu Leu Asp Gly Met Thr Cys Asn
196 115 120 125
198 Leu Arg Ala Lys Ser Phe Ser Ile His Phe Pro Leu Leu Lys Lys Tyr
199 130 135 140
201 Ile Glu Ala Ile Gln Trp Ile Tyr Gly Leu Ala Thr Pro Leu Ser Val
202 145 150 155 160
204 Phe Asp Asp Leu Val Ser Trp Asn Gln Thr Leu Ala Val Ser Leu Phe
205 165 170 175
207 Ser Pro Ser His Val Leu Glu Ala Gln Leu Asn Asp Ser Lys Gly Glu

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208          180          185          190
210 Val Leu Ser Val Leu Tyr Gln Met Ala Thr Thr Thr Glu Val Leu Ser
211          195          200          205
213 Ser Leu Gly Gln Lys Leu Leu Ala Phe Ala Gly Leu Ser Leu Val Leu
214          210          215          220
216 Leu Gly Thr Gly Leu Phe Met Lys Arg Phe Leu Gly Pro Cys Gly Trp
217 225          230          235          240
219 Lys Tyr Glu Asn Ile Tyr Ile Thr Arg Gln Phe Val Gln Phe Asp Glu
220          245          250          255
222 Arg Glu Arg His Gln Gln Arg Pro Cys Val Leu Pro Leu Asn Lys Glu
223          260          265          270
225 Glu Arg Arg Lys Tyr Val Ile Ile Pro Thr Phe Trp Pro Thr Pro Lys
226          275          280          285
228 Glu Arg Lys Asn Leu Gly Leu Phe Phe Leu Pro Ile Leu Ile His Leu
229          290          295          300
231 Cys Ile Trp Val Leu Phe Ala Ala Val Asp Tyr Leu Leu Tyr Arg Leu
232 305          310          315          320
234 Ile Phe Ser Val Ser Lys Gln Phe Gln Ser Leu Pro Gly Phe Glu Val
235          325          330          335
237 His Leu Lys Leu His Gly Glu Lys Gln Gly Thr Gln Asp Ile Ile His
238          340          345          350
240 Asp Ser Ser Phe Asn Ile Ser Val Phe Glu Pro Asn Cys Ile Pro Lys
241          355          360          365
243 Pro Lys Phe Leu Leu Ser Glu Thr Trp Val Pro Leu Ser Val Ile Leu
244          370          375          380
246 Leu Ile Leu Val Met Leu Gly Leu Leu Ser Ser Ile Leu Met Gln Leu
247 385          390          395          400
249 Lys Ile Leu Val Ser Ala Ser Phe Tyr Pro Ser Val Glu Arg Lys Arg
250          405          410          415
252 Ile Gln Tyr Leu His Ala Lys Leu Leu Lys Lys Arg Ser Lys Gln Pro
253          420          425          430
255 Leu Gly Glu Val Lys Arg Arg Leu Ser Leu Tyr Leu Thr Lys Ile His
256          435          440          445
258 Phe Trp Leu Pro Val Leu Lys Met Ile Arg Lys Lys Gln Met Asp Met
259          450          455          460
261 Ala Ser Ala Asp Lys Ser
262 465          470
265 <210> SEQ ID NO: 3
266 <211> LENGTH: 1410
267 <212> TYPE: DNA
268 <213> ORGANISM: Artificial Sequence
270 <220> FEATURE:
271 <223> OTHER INFORMATION: Description of Artificial Sequence:reverse
272 translation
274 <220> FEATURE:
275 <221> NAME/KEY: misc_feature
276 <222> LOCATION: (1)..(1410)
277 <223> OTHER INFORMATION: n may be a, c, g, or t
279 <400> SEQUENCE: 3

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W--> 280 atgggnatht ggacnwsngg nacngayath ttytnwsny tntgggarat htaygtwnsn 60
W--> 282 ccmgnwsnc cnggntggat ggayttyath carcayytn gngtntgytg yytngtngcn 120
W--> 284 ytnathwsng tnggnytnyt nwsngtngcn gcntgytggt tyytnccnws nathathgcn 180
W--> 286 gcngcngcnw sntggathat hacntgygtn ytnytnygt gywsnaarca ygcnmgtgy 240
W--> 288 ttyathytnt tngtnttyt nwsntgyggn ytnmgngarg gnmgnaaygc nytnathgcn 300
W--> 290 gcnggnacng gnathgtntat hytnggncay gtngaraaya thttycayaa yttyaarggn 360
W--> 292 ytnytnyayg gnatgacntg yaayytngmn gcnaarwsnt tywsnathca yttycnytn 420
W--> 294 ytnaaraart ayathgargc nathcartgg athtayggn ytnacncc nytnwsngtn 480
W--> 296 ttygaygayy tngtnwsntg gaaycaracn ytnngcngtnw snytnntyws nccnwsncay 540
W--> 298 gtnytnyarg cncarytnaa ygaywsnaar ggngargtny tnwsngtnyt ntaycaratg 600
W--> 300 gcnacnacna cngargtnyt nwsnwsnytn ggncaraary tnytnngcntt ygcnggnytn 660
W--> 302 wsnytngtny tnytnngnac nggnytnnty atgaarmgnt tyytnngncc ntgyggntgg 720
W--> 304 aartaygara ayathtayt hacnmgnear tnytnncart tygaygarmg ngarmgncay 780
W--> 306 carcarmgnc cntgygtnyt nccnytnaay aargargarm gnmgnaarta ygtathath 840
W--> 308 ccnacnttyt ggcncacncc naargarmgn aaraayytn gnytnntytt yytnccnath 900
W--> 310 ytnathcayy tntgyathg ggtnytnnty gcngcngtn gnytnntytt ntaymgnyt 960
W--> 312 athttysng tnwsnaarca rttcarwsn ytnccngnt tygargtnca yytnaarytn 1020
W--> 314 cayggngara arcarggnac ncargayath athcaygayw snwsnttyaa yathwsngtn 1080
W--> 316 ttygarecna aytyathcc naarccnaar tyytnytnw sngaracntg ggtncnytn 1140
W--> 318 wsgtnathy tnytnathyt ngtnatgytn ggnytnytnw snwsnathyt natgcarytn 1200
W--> 320 aarathytnw tnwsngcnws nttayccn wsgtnytnw gnaarmgnat hcartaytn 1260
W--> 322 caygnaary tnytnaaraa rmgnwsnaar carcnynytn gngargtnaa rmgnmgnyt 1320
W--> 324 wsnytntayy tncnaarat hcaytttytg ytnccngtny tnaaratgat hmgnaaraar 1380
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329 <210> SEQ ID NO: 4
330 <211> LENGTH: 942
331 <212> TYPE: DNA
332 <213> ORGANISM: primate
334 <220> FEATURE:
335 <221> NAME/KEY: CDS
336 <222> LOCATION: (1)..(939)
338 <220> FEATURE:
339 <221> NAME/KEY: mat_peptide
340 <222> LOCATION: (64)..(939)
342 <400> SEQUENCE: 4
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344 Met Ala Leu Pro Val Thr Ala Leu Leu Pro Leu Ala Leu Leu Leu
345 -20 -15 -10
347 cac gcc gcc agg cgc gat tac aag gac gat gac aag atc gat ctg 96
348 His Ala Ala Arg Pro Asp Tyr Lys Asp Asp Asp Lys Ile Asp Leu
349 -5 -1 1 5 10
351 agc aaa tgc agg acc gtg gcg ggc ccc gtg ggg gga tcc ctg agt gtg 144
352 Ser Lys Cys Arg Thr Val Ala Gly Pro Val Gly Gly Ser Leu Ser Val
353 15 20 25
355 cag tgt ccc tat gag aag gaa cac agg acc ctg aac aaa tac tgg tgc 192
356 Gln Cys Pro Tyr Glu Lys Glu His Arg Thr Leu Asn Lys Tyr Trp Cys
357 30 35 40
359 aga cca cca cag att ttc cta tgt gac aag att gtg gag acc aaa ggg 240
360 Arg Pro Pro Gln Ile Phe Leu Cys Asp Lys Ile Val Glu Thr Lys Gly

```

FYI:

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/713,098DATE: 11/29/2000
TIME: 09:05:35Input Set : A:\1051Q.app
Output Set : N:\CRF3\11292000\I713098.raw

L:12 M:270 C: Current Application Number differs, Replaced Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:280 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:288 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:290 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
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L:308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
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L:312 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:316 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:320 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:619 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:621 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:625 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:629 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:631 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
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L:635 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
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L:649 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:669 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:671 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:673 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:675 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:677 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9

11/29/00

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Input Set : A:\1051Q.app

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 L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
 L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9